

# The future landscape of large language models in medicine

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## Abstract

Large language models (LLMs) are artificial intelligence (AI) tools specifically trained to process and generate text. LLMs attracted substantial public attention after OpenAI's ChatGPT was made publicly available in November 2022. LLMs can often answer questions, summarize, paraphrase and translate text on a level that is nearly indistinguishable from human capabilities. The possibility to actively interact with models like ChatGPT makes LLMs attractive tools in various fields, including medicine. While these models have the potential to democratize medical knowledge and facilitate access to healthcare, they could equally distribute misinformation and exacerbate scientific misconduct due to a lack of accountability and transparency. In this article, we provide a systematic and comprehensive overview of the potentials and limitations of LLMs in clinical practice, medical research and medical education.